***Supplemental Material for*:**

Obesity and Synergistic Risk Factors for Chronic Kidney Disease in African American Adults: The Jackson Heart Study

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Supplemental Table 1. Characteristics of all JHS participants, and those included in or excluded from our visceral adipose study cohort.

Variable	Full JHS Cohort (n=5,301)	Included in Visceral Adipose Cohort (n=1,477)	Excluded from Visceral Adipose Cohort (n=3,824)	*p*[f]
Demographics				
Age, years	55.4 ± 12.9	54.0 ± 10.6	55.9 ± 13.6	<0.01
Female	3,367 (63.5%)	931 (63.0%)	2,436 (63.7%)	0.7
Income				<0.01
Poor	701 (13.2%)	108 (7.3%)	593 (15.5%)	
Lower-Middle	1,097 (20.7%)	231 (15.6%)	866 (22.7%)	
Upper-Middle	1,325 (25.0%)	397 (26.9%)	928 (24.3%)	
Affluent	1,358 (25.6%)	509 (34.5%)	849 (22.2%)	
Missing	820 (15.5%)	232 (15.7%)	588 (15.4%)	
Smoking Status [a]				<0.01
Never	3,574 (67.4%)	1,080 (73.1%)	2,494 (65.2%)	
Former	1,023 (19.3%)	260 (17.6%)	763 (20.0%)	
Current	693 (13.1%)	137 (9.3%)	556 (14.5%)	
Comorbidities				
Systolic BP, mmHg	127.0 ± 18.4	123.9 ± 15.7	128.2 ± 19.3	<0.01
Diastolic BP, mmHg	78.8 ± 10.6	79.4 ± 9.9	78.6 ± 10.8	0.01
Hypertension	3,188 (60.1%)	835 (56.5%)	2,353 (61.5%)	<0.01
Diabetes	1,152 (21.7%)	226 (15.3%)	926 (24.2%)	<0.01
Kidney Function				
eGFR, mL/min/1.73m^2	94.2 ± 22.0	97.7 ± 16.8	92.8 ± 23.6	<0.01
Hyperfiltration [b]	544 (10.3%)	137 (9.3%)	407 (10.6%)	0.1
Albumin-to-Creatinine Ratio [c], mg/g	6 (4-13)	5 (4-8)	7 (4-26)	<0.01
Obesity Measures				
Body Mass Index (BMI), kg/m^2	31.8 ± 7.2	31.3 ± 6.4	31.9 ± 7.5	<0.01
Obese ($\geq$ 30)	2,822 (53.2%)	754 (51.1%)	2,068 (54.1%)	
Overweight (25 – 29.9)	1,702 (32.1%)	521 (35.3%)	1,181 (30.9%)	
Normal / Underweight (< 25)	768 (14.5%)	202 (13.7%)	566 (14.8%)	
Waist Circumference [d]				<0.01
Normal	1,836 (34.6%)	573 (38.8%)	1,263 (33.0%)	
Overweight / Obese	3,456 (65.2%)	904 (61.2%)	2,552 (66.7%)	
Proposed Effect Modifiers				
AHA Dietary Quality Categorization [a, e]				0.3
Poor Health (0-1)	2,584 (48.8%)	725 (49.1%)	1,859 (48.6%)	
Intermediate Health (2-3)	1,992 (37.6%)	593 (40.2%)	1,399 (36.6%)	
Ideal Health (4-5)	50 (0.9%)	17 (1.2%)	33 (0.9%)	
AHA Physical Activity Category				<0.01

Poor Health	2,612 (49.3%)	642 (43.5%)	1,970 (51.5%)	
Intermediate Health	1,673 (31.6%)	489 (33.1%)	1,184 (31.0%)	
Ideal Health	1,011 (19.1%)	346 (23.4%)	665 (17.4%)	
Dietary Protein Intake				
Total Protein Intake, g/day	78.9 ± 35.4	78.8 ± 34.3	78.9 ± 35.8	0.9
Protein / IBW, g/kg/day	1.31 ± 0.59	1.30 ± 0.58	1.32 ± 0.60	0.4
Protein / Total Calories, %	14.5 ± 3.2	14.6 ± 3.1	14.5 ± 3.2	0.1
APOL1 Status [a]				0.5
High-Risk	444 (8.4%)	122 (8.3%)	322 (8.4%)	
Low-Risk	2,777 (52.4%)	814 (55.1%)	1,963 (51.3%)	
Use of ACE-i and / or ARB [a]				<0.01
No	3,432 (64.7%)	1,041 (70.5%)	2,391 (62.5%)	
Yes	884 (16.7%)	180 (12.2%)	704 (18.4%)	

Mean ± S.D. shown for continuous variables (unless otherwise indicated), proportions shown for categorical variables.

[a] The sums of frequencies for these categorical variables may not add up to 100% due to missing participant values.

[b] Hyperfiltration is defined as an eGFR >120 mL/min/1.73m^2.

[c] Values shown for median (interquartile range).

[d] Waist circumference categorization determined by 2005 National Cholesterol Education Program ATP III Guidelines, which defined overweight / obese as waist circumference $\geq$102 cm for males and $\geq$88 cm for females (Grundy et al. *Circulation*. 2005; 112(17): 2735-2752).

[e] Numbers in parentheses represent the Healthy Diet Score, based on the number of components met in the AHA optimal diet recommendations.

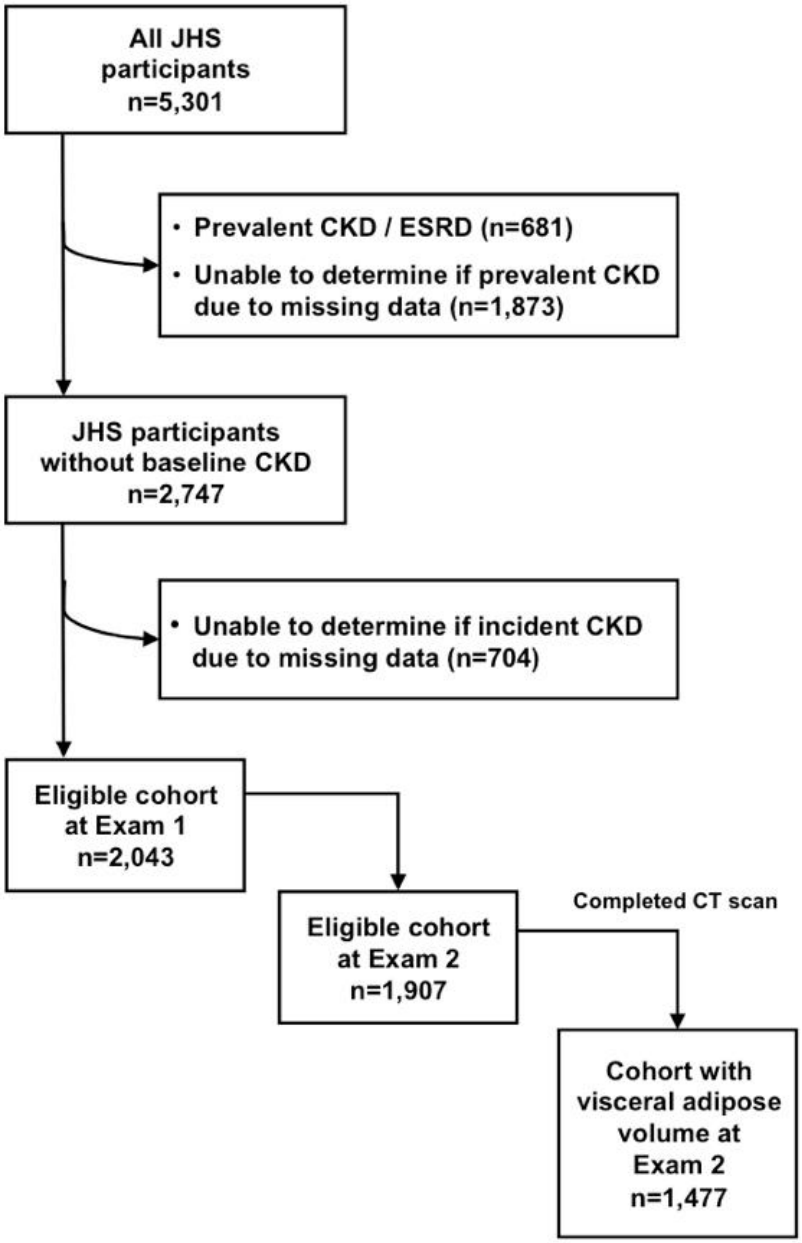
[f] *p* value for comparison between participants included in or excluded from our visceral adipose study cohort.

Supplemental Table 2. Odds ratios[a] of incident CKD according to levels of visceral adiposity, for poor dietary quality versus intermediate / ideal dietary quality.

Visceral Adipose Volume, cm^3	OR (95% CI)
225	1.84 (0.67 – 5.08)
450	1.19 (0.66 – 2.13)
675	0.92 (0.60 – 1.41)
900	0.86 (0.54 – 1.37)
1,125	0.96 (0.57 – 1.63)
1,350	1.30 (0.72 – 2.35)
1,575	2.09 (0.95 – 4.60)
1,800	4.06 (1.25 – 13.24)
2,025	9.46 (1.59 – 56.26)

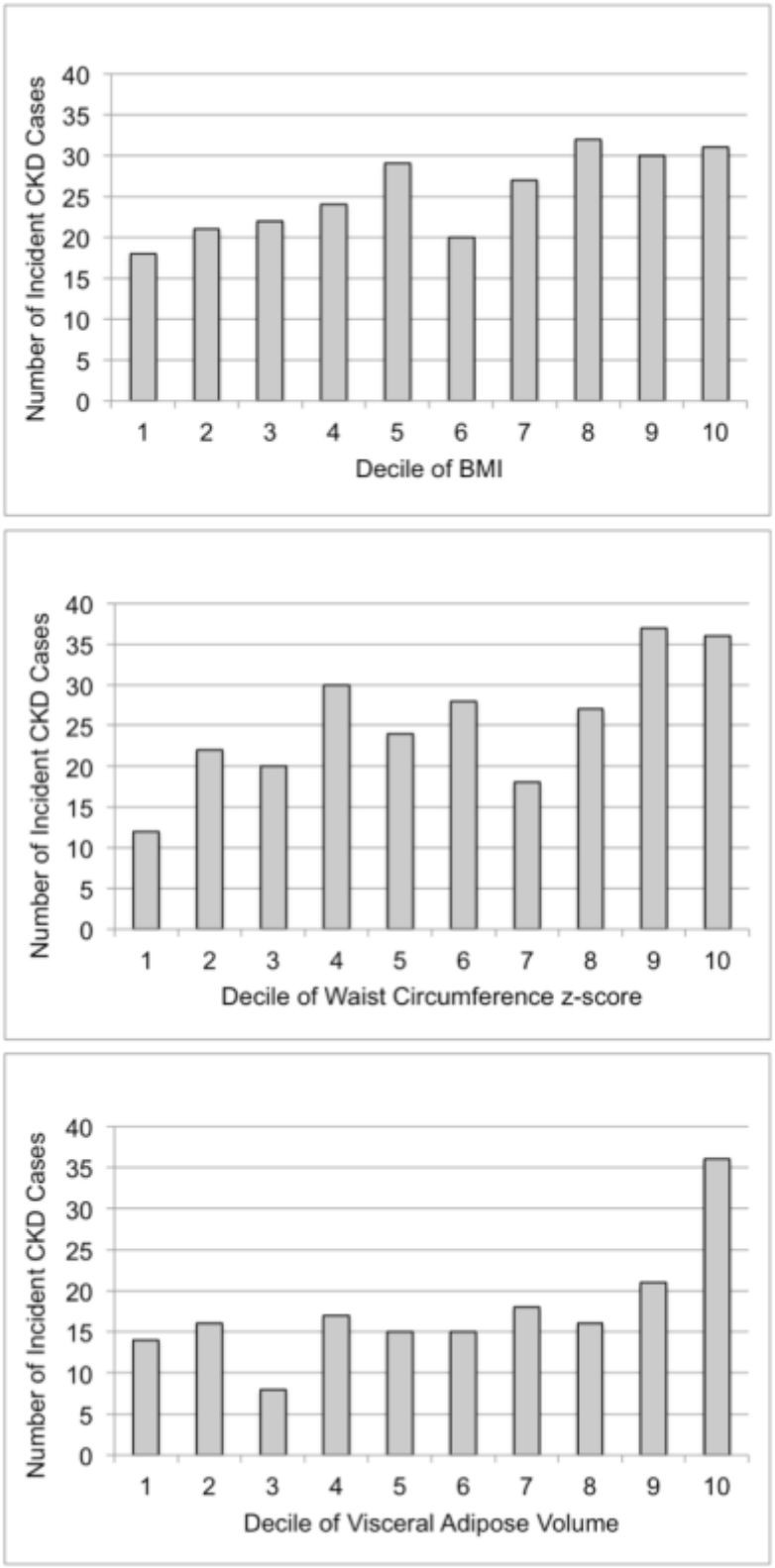
[a] Odds ratios are derived from multivariable logistic regression models incorporating a quadratic term for visceral adipose volume and adjusted for age, gender, income level, systolic blood pressure, diabetes, eGFR, and albuminuria.

Supplemental Figure 1



Flow diagram depicting study population inclusions and exclusions.

Supplemental Figure 2



Unadjusted number of incident CKD cases by obesity metric. Incident CKD cases at Exam 3 shown by deciles of: baseline BMI (Exam 1, n=2,043, top figure), with deciles of BMI (in kg/m^2) as follows: (1) <24.1, (2) 24.1 to 25.9, (3) 26.0 to 27.4, (4) 27.5 to 28.8, (5) 28.9 to 30.2, (6) 30.3 to 31.8, (7) 31.9 to 33.6, (8) 33.7 to 36.2, (9) 36.3 to 40.2, (10) >40.2; baseline waist circumference z-score (Exam 1, n=2,043, middle figure), with deciles of waist circumference z-score as follows: (1) <-1.14, (2) -1.13 to -0.82, (3) -0.81 to -0.55, (4) -0.54 to -0.30, (5) -0.29 to -0.12, (6) -0.11 to +0.12, (7) +0.13 to +0.41, (8) +0.42 to +0.73, (9) +0.74 to +1.25, (10) >+1.25; and visceral adipose volume (Exam 2, n=1,477, bottom figure), with deciles of visceral adipose volume (in cm^3) as follows: (1) <375, (2) 376 to 485, (3) 486 to 576, (4) 577 to 655, (5) 656 to 744, (6) 745 to 842, (7) 843 to 940, (8) 941 to 1,075, (9) 1,076 to 1,251, (10) >1,251. Incident CKD cases are defined as new eGFR <60 mL/min/1.73m^2 with >25% decline, or new urine albumin-to-creatinine ratio $\geq$30 mg/g. Note that some deciles have differences in total number of included individuals due to identical values at cutpoints.